

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/Ala Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-025704**Date Inspected:** 22-Jul-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Components**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance Inspector (QA Inspector) George Goulet was present during the times noted above for observations relative to the work being performed.

OBG Trial Assembly Area

This QA Inspector also randomly observed the following in the OBG Trial Assembly Area in response to Bolting Inspection Notification Sheet No. 00704:

Item 1 - OBG Segment 13E, LD splice, BK side, panel points 120~120.5: ZPMC workers performed final ASTM A325M bolt tightening verification of bolt sets noted below at the direction of ZPMC QC Hu Mei Gang (QC1) using ZPMC calibrated wrench #X02-666. No less than 10% of the ASTM A325 bolt sets at each connection were torque tested. QC1 provided this QA Inspector with the following information regarding the bolt sets installed at this location. This QA Inspector observed ZPMC's Bolt Test Log for SFOBB (RoCap list), listing the RoCap Set numbers, bolt set size, and the NM test result for torque tightening purposes. The information presented by QC1 and listed below appeared to this QA Inspector to match the RoCap list as follows:

470 bolt sets - RC Set No. DHGM270035 – M27x95 – test result 647NM

The torque of the above noted bolt sets was verified by torque testing with the above noted calibrated wrench with the wrench setting displayed as 650NM at the direction of QC1. Based on the information above this concurred with QC1 for the issuance of green tag numbers.

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Item 2 - OBG Segment 13W, FL3 to BP: ZPMC workers performed final ASTM A325M bolt tightening verification of bolt sets noted below at the direction of ZPMC QC Zhang Lin (QC2) using ZPMC calibrated wrench #X02-676. No less than 10% of the ASTM A325 bolt sets at each connection were torque tested. QC2 provided this QA Inspector with the following information regarding the bolt sets installed at this location. This QA Inspector observed ZPMC's Bolt Test Log for SFOBB (RoCap list), listing the RoCap Set numbers, bolt set size, and the NM test result for torque tightening purposes. The information presented by QC2 and listed below appeared to this QA Inspector to match the RoCap list as follows:

At PP118 & PP120 - 520 bolt sets - RC Set No. DHGM240351 – M24x95 – test result 453/660NM (nut end/bolt end)

At PP120 - 222 bolt sets - RC Set No. DHGM240128 – M24x130 – test result 787NM (bolt end)

The torque of the above noted bolt sets was verified by torque testing with the above noted calibrated wrench with the wrench setting displayed at the next higher increment above the test results at the direction of QC2. Some of the M24x95 bolt sets were tested from the bolt end and some were tested from the nut end. Based on the information above this concurred with QC2 for the issuance of green tag numbers.

ZPMC workers began to test the bolts sets noted below at the direction of QC2, but 8 of the first 10 bolt sets tested at PP119+1500 turned more than one half rotation before the torque wrench signaled each bolt had been tightened to the proper torque.

At PP119-1500, PP119, PP119+1500 - 336 bolt sets - RC Set No. DHGM300012 – M30x100 – test result 967NM (nut end)

This QA Inspector informed QC2 that the M30x100 bolt sets had failed QA verification and would need to be tested again at another time. QC2 informed this QA Inspector that the other bolt sets included in Item 2 of Bolting Inspection Notification Sheet No. 00704 not yet tested would also be rescheduled and the remainder of this test was cancelled.

This QA Inspector also randomly observed the following work in progress in the OBG Trial Assembly Area:

SMAW welding of weld joints DP3097-001-098, 099 located on PCMK OBG 13BE. Welder was identified as 216086. QC was identified as ABF CWI Ji Cai Fang (QC1). Assisting QC1 at this location and appearing to be monitoring the welding operation and recording data was ZPMC QC Zhan Hai Feng (QCA1), who was not a CWI. Weld variables recorded by QCA1 appeared to comply with WPS-B-P-2114-FCM-1 as verbally identified by QCA1.

FCAW welding of weld joints SEG3013V-318, 322 located on PCMK OBG 13AW. Welder was identified as 215397. QC was identified as QC1. Assisting QC1 at this location and appearing to be monitoring the welding operation and recording data was ZPMC QC Wang Xiang Pin (QCA2), who was not a CWI. Weld variables recorded by QCA2 appeared to comply with WPS-B-T-2233-ESAB as verbally identified by QCA2.

FCAW welding of weld joints SEG3013W-094, 112 located on PCMK OBG 13AW. Welder was identified as 204342. QC was identified as QC1. Assisting QC1 at this location and appearing to be monitoring the welding

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operation and recording data was QCA2, who was not a CWI. Weld variables recorded by QCA2 appeared to comply with WPS-B-T-2233-ESAB as verbally identified by QCA2.

FCAW welding of weld joints SEG3013W-022, 023, 028, 029, 042, 043 located on PCMK OBG 13AW. Welder was identified as 216872. QC was identified as QC1. Assisting QC1 at this location and appearing to be monitoring the welding operation and recording data was QCA2, who was not a CWI. Weld variables recorded by QCA2 appeared to comply with WPS-B-T-2133-ESAB as verbally identified by QCA2.

FCAW welding of weld joints SEG3013V-139, 140, 144, 145, 158, 159 located on PCMK OBG 13AW. Welder was identified as 217185. QC was identified as QC1. Assisting QC1 at this location and appearing to be monitoring the welding operation and recording data was QCA2, who was not a CWI. Weld variables recorded by QCA2 appeared to comply with WPS-B-T-2232-ESAB as verbally identified by QCA2.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

Summary of Conversations:

As noted above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang, 150-0042-2372, who represents the Office of Structural Materials for your project.

Inspected By:	Goulet, George	Quality Assurance Inspector
Reviewed By:	Riley, Ken	QA Reviewer
